UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/677,537	10/03/2003	Tetsujiro Kondo	243480US6	2304

22850 7590 07/23/2008		EXAMINER
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.		SMITH, JEFFREY S
1940 DUKE STREET		
ALEXANDRIA, VA 22314	ART UNIT	PAPER NUMBER
	2624	

NOTIFICATION DATE	DELIVERY MODE
07/23/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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PTOL-90A (Rev. 04/07)

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on _5/30/8_.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) _1-3 and 15_ is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) _1-3, 15_ is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____ .

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____ .

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____ .

DETAILED ACTION

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1-3 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-37 of copending Application No. 10/490,855 ("'855") in view of U.S. Patent Number 7,245,774 issued to Kondo ("Kondo").

Claim 20 of the '855 application recites "a storage means for storing positional information of said second image data at positions specified by a plurality of addresses corresponding to said respective features of said second image data and value in the vicinity of said feature," which corresponds to the storing means of claim 1 of the current application. Claim 20 of the '855 application also recites "a motion vector calculation

means for obtaining the positional information of said second image data corresponding to said focused data by reading the positional information to said second image data stored in said storage means at a plurality of addresses corresponding to said feature of said focused data and value in the vicinity of said feature, and calculating a motion vector of said focused data by using the positional information of said focused image data and the positional information of said obtained second image data," which reads on "first detecting means for detecting the position information stored at an address corresponding to a feature of a target pixel of a second frame, and second detecting means for detecting a motion vector of the target pixel from the position of the target pixel."

Kondo discloses determining a centroid and detecting a motion vector from the position of the target pixel and the centroid as shown in figure 5.

It would have been obvious to one of ordinary skill in the art at the time of invention to modify claim 16 of the '208 application to include determining the centroid and detecting the motion vector from the position of the target pixel and the centroid for the benefit of reducing the amount of calculation needed for block matching as taught by Kondo in column 1.

Claims 2-3, which have similar elements, are also rejected for these reasons.

This is a provisional obviousness-type double patenting rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable

over U.S. Patent Number 6,020,925 issued to Jung ("Jung") in view of U.S. Patent

Number 4,754,490 issued to Swonger ("Swonger") and further in view of U.S. Patent

Number 6,625,317 issued to Gaffin et al. ("Gaffin").

For claim 1, Jung discloses a device that detects position information

corresponding to a feature value that is based on a value of the target pixel of which a

motion vector is to be determined, the feature value representing said feature of said

target pixel (column 4 lines 11-21 and 45-58), that determines a centroid of candidate

pixels of the first frame which are identified with the position information (column 4 line

50), and that detects a motion vector of the target pixel from the position of the target

pixel and the centroid (column 4 lines 53-58).

Swonger discloses a device where the image memory stores position information

of each pixel of a frame at an address corresponding to a feature value that is based on

a value of the pixel, the feature value representing a feature of the pixel (abstract,

figures 1 and 3, column 1 lines 53-68, column 3 lines 17-27).

It would have been obvious to one of ordinary skill in the art at the time of

invention to use the pixel position addressable by pixel feature memories of Swonger

with motion prediction device of Jung for the benefit of easily identifying the location of

pixels with a certain feature as taught by Swonger when determining a motion vector

from a plurality of candidates having the feature as taught by Jung.

Although Swonger does not explicitly disclose that the feature is based on a

value of the pixel and a pixel peripheral to the pixel, using these pixels as the feature is

well known as being within the ordinary capabilities of a person of ordinary skill in the art

at the time of invention as disclosed by Gaffin (abstract, figure 4, column 2 lines 23-22,

column 3 lines 36-47).

It would have been obvious to one of ordinary skill in the art at the time of

invention to use the pixel position addressable by pixel feature memories of Swonger

and Gaffin with the device of Jung because the particular known technique of storing

the position of a pixel at an address corresponding to a feature was recognized as part

of the ordinary capabilities of one skilled in the art. In this particular case, all the claim

elements were known in the prior art and one skilled in the art could have combined the

elements with no change in their respective functions, and the combination would have

yielded predictable results.

For claims 2, 3, and 15, which disclose the elements of claim 1 expressed in

method and computer memory forms, these claims are rejected based on Swonger,

Gaffin and Jung for the reasons given in the rejection of claim 1, because using the

apparatus of claim 1 to perform the method of claim 2 or to store a computer program

which when executed by a processor performs the method of claim 2 is within the

ordinary skill in the art at the time of invention.

Claims 1-3 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Japanese Application No. JP11258472 by Kondo ("Kondo") published March 30,

2001 in view of U.S. Patent Number 5,576,772 issued to Kondo ("Kondo II"), U.S.

Patent Number 4,754,490 issued to Swonger ("Swonger"), and U.S. Patent Number

6,625,317 issued to Gaffin et al. ("Gaffin").

For claim 1, Kondo discloses a device that determines a centroid of candidate

pixels of the first frame which are identified with the position information detected by the

position information detected by the first detecting means (see 21 of Fig. 5), and second

detecting means for detecting a motion vector of the target pixel from the position of the

target pixel and the centroid (see 22 of Fig. 5, see also Figs. 6A, 6B, and 6C), along

with storing means for storing position information of pixels of a first frame that is earlier

in time than a second frame (see image memory storing means element 24 of Fig. 5)

and first detecting means for detecting the position information stored at an address

(see Figs. 6A-6C).

Kondo II discloses a device that detects position information of a target pixel of

which a motion vector is to be determined based on a feature of the target pixel (see

Figs. 9A-9C).

Swonger discloses a device where the image memory stores position information

of each pixel of a frame at an address corresponding to a feature value that is based on

a value of the pixel, the feature value representing a feature of the pixel (abstract,

figures 1 and 3, column 1 lines 53-68, column 3 lines 17-27).

Although Swonger does not explicitly disclose that the feature is based on a value of the pixel and a pixel peripheral to the pixel, using these pixels as the feature is well known as being within the ordinary capabilities of a person of ordinary skill in the art at the time of invention as disclosed by Gaffin (abstract, figure 4, column 2 lines 23-22, column 3 lines 36-47).

It would have been obvious to one of ordinary skill in the art at the time of invention to combine the feature based memory of Swonger and Gaffin with the feature based motion vector device of Kondo II for the benefit of retrieving candidate pixels that have a given feature as taught by Kondo II using a memory address that corresponds to the feature as taught by Swonger. It would have been obvious to use the combination of Swonger and Kondo II with the device of Kondo for determining a motion vector from a plurality of candidate motion vectors using the centroid as taught by Kondo.

For claims 2, 3, and 15, which disclose the elements of claim 1 expressed in method and computer memory forms, these claims are rejected based on Swonger, Gaffin, and Kondo I and II for the reasons given in the rejection of claim 1, because using the apparatus of claim 1 to perform the method of claim 2 or to store a computer program which when executed by a processor performs the method of claim 2 is within the ordinary skill in the art at the time of invention.

Response to Arguments

The terminal disclaimer filed February 14, 2008 failed to address the double patenting rejection based on U.S. application number 10/490,855. This rejection is therefore repeated here.

Applicant's arguments with respect to claims 1-3 and 15 have been considered but are moot in view of the new ground(s) of rejection.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY S. SMITH whose telephone number is (571)270-1235. The examiner can normally be reached on M-F. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jingge Wu can be reached on 571 272-7429.

/Jingge Wu/
Supervisory Patent Examiner, Art Unit 2624

JSS
July 16, 2008